ABSTRACT

A quantum approach to the economically significant n-player public goods or similar n-player game requires only two-particle entanglement and is thus much easier to implement than games requiring n-particle entanglements. Two-particle entanglements are sufficient to give near optimal expected payoff when players use a simple mixed strategy for which no player can benefit by making different choices. This mechanism can also address some heterogeneous preferences among the players. Quantum games in accordance with the invention can be simulated on classical computers without requiring impractical amounts of processing power for large numbers of players.